

REMARKS

Claims 10-14 are presently pending in the application.

Claim 7-9 have been cancelled, without prejudice to the filing of a Divisional application directed to the subject matter thereof, in view of the repeated Restriction Requirement.

Claims 1-3 have been rewritten as new claim 10 with some further clarification of the individual steps of the process. Support for these amendments may be found, for example, in original claims 1-3 and at page 2 of the specification. Original claims 4-6 have been rewritten as new claims 11-13, and the method step of claim 8 has been rewritten into new claim 14. Accordingly, no new matter has been added, and entry of the Amendments is respectfully requested.

The Examiner has rejected claim 3 under 35 U.S.C. § 112, second paragraph as being indefinite with respect to the word “workpieces.” Since claim 3 has been cancelled and this word is not used in the new claims, the rejection is moot. Accordingly, reconsideration and withdrawal are requested.

In paragraphs 4-8 of the Office Action, the Examiner has rejected claims 1, 4, 5 and 6 under 35 U.S.C. § 102(b) as being anticipated by each of four different U.S. Patents, namely 5,403,645 of Stein et al. (“Stein ’645”), 4,529,639 of Peoples, Jr. et al. (“Peoples”), 5,429,786 of Jogan et al. (“Jogan”), and 5,340,425 of Strapazzini et al. (“Strapazzini”). In view of the incorporation of claims 1, 2 and 3 into new claim 10, these rejections are moot and will not be specifically discussed. However, each of the four references will be discussed separately below in so far as they may relate to the presently pending claims.

In addition, in paragraphs 9-13 of the Office Action, the Examiner has rejected original claims 2 and 3 under 35 U.S.C. § 103(a) as being unpatentable over each of the four above-mentioned references. The Examiner acknowledges in each case that the reference does not teach (1) trimming the blank to a true-to-size contour or (2) exclusively handling the workpieces by automatic machines between individual process steps. However, the Examiner argues that it is well known in the molding art to create a pre-form with clean edges and an accurate size and to use automated machines in order to increase efficiency and reduce human errors. The

Examiner therefore concludes that it would have been obvious to one skilled in the art to trim the fabric blank of each of the references and to automate the handling of the workpieces in order to achieve the above results.

Again, these rejections are moot in view of the cancellation of claims 2 and 3. However, insofar as these rejections may be applicable to new claim 10, or any of the other presently pending claims, the rejections are respectfully but strenuously traversed for the reasons set forth in detail below.

The step of handling workpieces by automatic machines between individual process steps (originally in claim 3) has been clarified in new claim 10 to specify that the coated fabric blank is handled from the fabric side by suction grippers for insertion into and/or removal from an injection mold. This step is discussed in particular at paragraph [0008] of the present application.

Applicants do not contest the Examiner's assertion that the handling of workpieces by automatic machines between individual process steps is well-known in the molding art, and in fact, Applicants concede in paragraph [0008] that automatic machines or robots and suction grippers are usually used with injection molds. However, as explained in the Background Section of the present application, there are problems in injection molding a laminate when the outer layer is a textile fabric, non-woven or the like, which is inherently porous and air-permeable. Thus, due to the air-permeability of the fabric, suction grippers and other automated machinery cannot reliably hold and finish the injection molding laminate including the fabric layer. Such problems are not encountered where the layers of the laminate to be injection molded are made of plastic films, sheets or the like which are not permeable to air.

The present invention solves or alleviates these problems by providing the fabric with a plastic film coating. As a result, the coated fabric is then impermeable to air and functions like a plastic sheet member. This provides a major advantage of the present invention in that, even though the fabric is permeable to air, the coated fabric blank can now be handled by the usual suction grippers or the like, for example in transferring the fabric blank to and from an injection mold.

Further, the coating of the fabric with a theromoformable plastic film, which is dimensionally stable when cooled, allows the fabric blank to be set in its final desired outer contour prior to injection molding, and thus allows trimming of the pre-formed fabric blank to a true-to-size contour before the injection molding step. This overcomes a number of the problems discussed in the Background section of the present application. It is submitted that neither of these advantages is achieved and/or recognized by the references relied upon by the Examiner, and therefore that these steps are not obvious from the prior art.

First, with respect to the Stein reference, the Examiner appears to equate the insert 30, having a cloth membrane cover 12, a foam backing 14 of polyether, and a plastic film backing 16, with the coated fabric blank of the presently claimed invention. Thus, the Examiner takes the position in paragraph 5 of the Office Action that polyether is thermoformable. However, Applicant disputes that the polyether foam is a "plastic film", and there is no indication that either the soft foam backing 14 or the plastic film backing 16 of Stein is dimensionally stable when cooled. In any event, there is no description in Stein of how the insert 30 is manufactured, whether by thermoforming or otherwise. Therefore, the first two steps of claim 10 are not taught or suggested by Stein.

Further, while Stein uses a series of vacuums provided in apertures 26 of the lower half of the injection mold, there is no teaching or suggestion in Stein of handling the insert from the fabric side by suction grippers for insertion into and/or removal from the injection mold. In fact, it appears that the insert is not dimensionally stable, since Stein states that the insert is "compliantly held" by insertion within the blade 24 of the injection mold and that the series of vacuums is needed to retain the insert in its proper location during the molding process. Accordingly, there is no indication that the process of the present application could be carried out by automatic handling in the manner of the presently claimed invention. Reconsideration and withdrawal of the rejection over Stein are therefore respectfully requested.

The molded product and process of Peoples, namely molding a foam pad to the back of a carpet layer for use in automobiles, is similar to the art of the presently claimed invention, and Applicants believe is probably the closest prior art. However, Peoples still does not teach either

the step of trimming the pre-formed fabric blank to a true-to-size contour before injection molding, or the handling of the fabric blank by suction grippers.

Thus, in Peoples, the trimming (so-called “edge cut”) is performed after the injection molding. Applicants respectfully dispute the Examiner’s assertion that either of these steps would have been obvious to one skilled in the art, absent some suggestion or motivation in the prior art of carrying out such steps with fabric-based laminates. Accordingly, reconsideration and withdrawal of this rejection are also respectfully requested.

Neither Jogan nor Strapazzini relates to a process using a fabric. Both references relate to sheet members, and as already pointed out above, the problems of air-permeable fabrics which are solved by the present invention, are not encountered by sheet members made of plastic films or the like, which are not permeable to air.

With respect to Jogan, the Examiner points specifically to the embodiment of Figs. 9 and 10. However, element 31 is described as a “fluffed sheet” which is prepared by fluffing a cushion layer 30, which is a plastic sheet. There is no indication that this element is anything like a fabric.

Further, Jogan does not disclose how the fluffed sheet element 31 “formed to a predetermined shape” (col. 6, lines 46-48) is formed, whether by thermoforming or otherwise. Hence, there is no teaching or suggestion in Jogan of the first four steps of the method of claim 10, namely providing a coated fabric blank, thermoforming the coated fabric blank into a desired outer contour, trimming the pre-formed fabric blank or handling the coated fabric blank by suction grippers. Therefore, Jogan totally fails to disclose or render obvious the presently claimed invention, and the rejection is therefore unwarranted and should be withdrawn.

With respect to Strapazzini, this reference discloses attaching a carpet-like material 12 to a plastic backing sheet 18 by heat-sealing around the edges (see Fig. 3 and col. 3, line 62-col. 4, line 12). It does not disclose coating the fabric with a thermoformable film. Next, the resulting blank is vacuum-formed in a molding cavity 26 (see col. 4, lines 24-38). It does not disclose thermoforming. Next, the vacuum-formed blank is transferred from the vacuum-forming mold to an injection mold via transfer tool 30 and transfer mold 33 by adhering the blank to the transfer tool, or the transfer may take place by hand (see col. 4, lines 47-63). From this, it is

unclear whether the blank is dimensionally stable, since the transfer tool needs to be shaped correspondingly to the molded blank (see Figs. 13 and 14). In any event, there is no teaching or suggestion of handling the blank with suction grippers. Moreover, the overlap and selvage portions 23 of the insert are torn away after bonding of the carpet-like material to the blank and before the vacuum forming of the blank (see col. 4, lines 13-17).

Therefore, again, the first four steps of the method of claim 10 of the presently claimed invention are not taught by Strapazzini. Hence, Strapazzini totally fails to disclose or render obvious the invention, and the rejection is unwarranted and should be withdrawn.

In view of the above Amendments and Remarks, it is submitted that all of the presently pending claims patentably distinguish over the prior art relied upon by the Examiner Reconsideration and an early Notice of Allowance are respectfully requested.

Respectfully submitted,

Frank Schlieber et al.

December 18, 2003 By: WILLIAM W. SCHWARZE
(Date)

WILLIAM W. SCHWARZE

Registration No. 25,918

AKIN GUMP STRAUSS HAUER & FELD LLP

One Commerce Square

2005 Market Street, Suite 2200

Philadelphia, PA 19103-7013

Telephone: 215-965-1200

Direct Dial: 215-965-1270

Facsimile: 215-965-1210

E-Mail: wschwarze@akingump.com

WWS/krh

Enclosure: Petition for Extension of Time (3 Months)